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KLAMATH RIVERKEEPER, PACIFIC COAST
FEDERATION OF FISHERMEN'S ASSOCIATIONS and the
INSTITUTE FOR FISHERIES RESOURCES

BEFORE THE STATE WATER RESOURCES CONTROL BOARD

In re: Unauthorized Discharges of Pollutants,) **PETITION TO REVIEW**
including *Microcystis aeruginosa*, Microcystin, Low) **CALIFORNIA REGIONAL WATER**
Dissolved Oxygen, and Low or High Temperature) **QUALITY CONTROL BOARD,**
Water to and from the Copco and Iron Gate Dams) **NORTH COAST REGION**
and Reservoirs, Klamath River, Siskiyou, Humboldt) **RESOLUTION NO. R1-2007-0028**
and Del Norte Counties.)
)

I. Name and Contact Information of Petitioners.

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1 **II. REGIONAL BOARD AND STATE BOARD ACTIONS BEING PETITIONED.**

2 This petition seeks review of California Regional Water Quality Control Board, North
3 Coast Region (“Regional Board”) Resolution No. R1-2007-0028, denying Petitioners’ request
4 that the Regional Board (1) order PacifiCorp, the operator of the Copco and Iron Gate Dams on
5 the Klamath River, to submit a report of waste discharge for its discharges of *Microcystis*
6 *aeruginosa*, microcystin toxin, and other pollutants to and from the Copco and Iron Gate
7 Reservoirs and Dams, and (2) with or without the filing of a report of waste discharge, issue
8 waste discharge requirements establishing appropriate restrictions and prohibitions safeguarding
9 the beneficial uses of the reservoirs and downstream waters of the Klamath River from
10 PacifiCorp’s releases of *M. aeruginosa*, microcystin and other pollution.

11 Petitioners request the State Board to expedite its consideration of this Petition for
12 Review. Prompt action is needed to address PacifiCorp’s violations of the Porter-Cologne Water
13 Quality Control Act. PacifiCorp’s operations will begin releasing dangerous levels of *M.*
14 *aeruginosa* and toxic levels of microcystin beginning again this coming July. Petitioners’
15 believe immediate actions by the State Board, Regional Board and PacifiCorp are necessary to
16 prevent or minimize the extent of those releases and the harm to beneficial uses in and
17 downstream from the reservoirs, including the protection of irreplaceable commercial and Tribal
18 fisheries. The State Board’s expeditious consideration of this petition for review would allow
19 the Board to take prompt action either on its own or via remand to the Regional Board before
20 July.

21 **III. THE DATE THE REGIONAL BOARD ACTED.**

22 April 26, 2007. A true and correct copy of Regional Board Resolution No. R1-2007-
23 0028 is attached hereto as Exhibit A.

24 **IV. STATEMENT OF REASONS THE REGIONAL BOARD’S ACTION WAS**
25 **INAPPROPRIATE OR IMPROPER.**

26 The Regional Board’s refusal to apply the Water Code’s waste discharge requirements to
27 PacifiCorp is based on an incorrect legal conclusion that the State of California’s water quality
28 laws as they apply to PacifiCorp’s operations on the Klamath River are preempted by the Federal

Power Act, (“FPA”), 16 U.S.C. § 793a *et seq.* By Resolution No. R1-2007-0028, the Regional Board largely agreed with the facts presented by Petitioners that PacifiCorp’s operations on the Klamath River at Copco and Iron Gate Reservoirs are resulting in excessive levels of blue-green algae *M. aeruginosa*, associated toxic microcystins and other pollution. *See* Resolution No. R1-2007-0028, ¶¶ 14-15. Those releases to and from the reservoirs are in turn causing violations of numerous water quality objectives applicable to that stretch of the Klamath River. *Id.* Although the Regional Board readily acknowledged PacifiCorp’s pollution of the Klamath River was controllable and not in conformance with at least six water quality objectives, the Regional Board declined to either require PacifiCorp to submit a report of waste discharge or to issue waste discharge requirements to PacifiCorp. Petitioners’ believe that the Regional Board’s broad interpretation of the scope of the FPA’s preemption of state law is inconsistent with Congressional intent as manifested not only in the FPA but the Federal Water Pollution Control Act (“FWPCA”) as well. *See id.*, ¶ 18. The FWPCA is the controlling statement of Congress’ intent to defer to the states to regulate water quality even in the context of federally licensed hydropower projects. The Regional Board’s legal conclusion also fails to acknowledge the recent Supreme Court rulings confirming Congress’ intent in the FWPCA not to preempt state water quality laws but instead in large part to cede the field of water quality regulation to the states. The previous federal court rulings referenced by the Regional Board only address the FPA’s preemption of certain aspects of the state’s water rights laws as they apply to federal hydropower projects.

V. PETITIONERS ARE AGGRIEVED.

A. The Blue-Green Algae *M. aeruginosa* And Its Associated Toxin Microcystin Are Extremely Toxic To The Beneficial Uses Of The Klamath River.

As concern has risen over the years regarding the habitat destruction and disruption of native fisheries from dams on the vast majority of the rivers of the west coast of the United States, yet another even more insidious impact of dams has come to light – many of the dams and their resulting reservoirs are toxic, blue-green algae factories. By damming rivers that are high in nutrients, impounding them in reservoirs, then warming those waters in a quiescent

environment, dam operators like PacifiCorp have created a perfect environment for the growth and proliferation of blue-green algae, or what are also known as cyanobacteria. Many genera of cyanobacteria produce a variety of neurotoxins, liver toxins (hepatotoxins) and other toxins poisonous to both humans and wildlife. While an algae cell remains healthy, toxins will remain within the cell. Under certain growth conditions, healthy algal cells secrete toxins. As the algae cells age, die or break open, including for example when algaecides are applied, the cells release their toxins into the water.

M. aeruginosa is one such cyanobacteria. When present, *M. aeruginosa* is found on and near the surface of relatively still lakes and reservoirs, appearing as mats of scum and giving the water a green-hue. This blue-green algae produces the potent toxin microcystin. Microcystin is a hepatotoxin, the liver being its ultimate target. Microcystins are highly toxic at very low dosages. Exposure to *M. aeruginosa* and microcystin occurs through oral ingestion, aspiration of water into the lungs, inhalation of mist and skin contact. Stone, David and William Bress, “Addressing Public Health Risk For Cyanobacteria in Recreational Freshwaters: The Oregon and Vermont Framework,” Integrated Env’tl Assess. & Management, Vol. 3, No. 1, p. 139 (2007) (“Stone & Bress”) (Exhibit A).¹ Microcystin can accumulate in shellfish and fish tissue. *Id.* Microcystin has been measured not only in the livers and viscera of exposed fish, but also their fillets. *Id.* Cooking fish or heating water does not break down microcystins. *Id.* at 139-140. Because the death of the *M. aeruginosa* releases its toxins into the surrounding waters, released toxins will persist after a blue-green algae bloom dissipates. *Id.* at 142. Exposure to toxin can be exacerbated by eager recreational users entering the water shortly after a bloom has dissipated. *Id.* Exposure can result in serious gastrointestinal problems, nausea, vomiting, flu-like symptoms, sore throat, blistering, eye and ear irritations, rashes, visual disturbances and death through liver failure. *Id.* at 137.

¹ All references to exhibits refer to the exhibits attached to Petitioners’ original petition to the Regional Board.

1 The Regional Board’s Basin Plan includes water quality standards that, if implemented,
2 would protect Petitioners, their members and the general public from blue-green algae blooms,
3 toxins and other pollutants released by PacifiCorp’s operations. The Regional Board has
4 designated beneficial uses for Klamath River and the Copco and Iron Gate Dam Reservoirs.
5 These include: Native American cultural use; water contact recreation; non-contact water
6 recreation; commercial and sportfishing; subsistence fishing; warm freshwater habitat; cold
7 freshwater habitat; wildlife habitat; habitat for rare, threatened, or endangered species; migration
8 of aquatic organisms; spawning, reproduction, or early development; aquaculture; navigation,
9 and; hydropower generation. Basin Plan at 2-6.00, Table 2-1. Iron Gate includes shellfish
10 harvesting as an existing use. *Id.* Iron Gate Reservoir is identified as a potential municipal and
11 domestic water supply, agricultural supply, industrial service supply, and industrial process
12 supply. *Id.* Copco is an existing municipal and domestic water supply as well as agricultural,
13 industrial service, and industrial process supply. *Id.*

14 The Regional Board has established numerous water quality standards as part of its Basin
15 Plan designed to protect these uses. Toxicity is forbidden: “All waters shall be maintained free
16 of toxic substances in concentrations that are toxic to, or that produce detrimental physiological
17 responses in human, plant, animal, or aquatic life.” Basin Plan at 3-4.00. The Basin Plan
18 establishes a standard for “Color,” stating that “[w]aters shall be free of coloration that causes
19 nuisance or adversely affects beneficial uses.” *Id.* at 3-3.00. The Basin Plan prohibits excessive
20 “Floating Material,” providing that “[w]aters shall not contain floating material, including solids,
21 liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial
22 uses.” *Id.* The Basin Plan restricts “Suspended Material” – “[w]aters shall not contain
23 suspended material in concentrations that cause nuisance or adversely affect beneficial uses.” *Id.*
24 The Basin Plan precludes the concentration of “Biostimulatory Substances” – “[w]aters shall not
25 contain biostimulatory substances in concentrations that promote aquatic growths to the extent
26 that such growths cause nuisance or adversely affect beneficial uses. *Id.* The standard for
27 “Tastes and Odors” provides that “[w]aters shall not contain taste- or odor-producing substances
28 in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of

1 aquatic origin, or that cause nuisance or adversely affect beneficial uses.” *Id.* Persons are not
2 allowed to increase or decrease temperature to any excessive degree:

3 The natural receiving water temperature of intrastate waters shall not be altered
4 unless it can be demonstrated to the satisfaction of the Regional Water Board that
5 such alteration in temperature does not adversely affect beneficial uses. At no
6 time or place shall the temperature of any COLD water be increased by more than
7 5°F above natural receiving water temperature. At no time or place shall the
8 temperature of WARM intrastate waters be increased more than 5°F above natural
9 receiving water temperature.

10 *Id.* at 3-4.00). Lastly, the Basin Plan establishes a standard for dissolved oxygen (DO) in the
11 Klamath River in the area of Copco and Iron Gate Reservoirs – a minimum of 7.0 mg/l DO and
12 50% monthly means greater than or equal to 10.0 mg/l. *Id.* at 3-6.00 (Table 3-1).

13 In addition, employing its best professional judgment, the Regional Board has an array of
14 standards established by the World Health Organization and various states within the United
15 States upon which it may rely to establish discharge limitations for PacifiCorp. The World
16 Health Organization has established several standards for cyanobacterial levels based on various
17 risk levels. WHO has published a provisional drinking water guideline value of 1 µg/l for
18 microcystin-LR. Chorus, Ingrid & Jamie Bartram, eds., Toxic Cyanobacteria In Water: A Guide
19 To Their Public Health Consequences, Monitoring And Management § 5.2.2 (World Health
20 Organization 1999) (“WHO Guide”) (Exhibit B). WHO has established a low risk level of
21 20,000 cyanobacterial cells/ml. *Id.* At that level, data indicates that exposed individuals may
22 still experience skin irritation and gastrointestinal illness. WHO’s moderate probability of health
23 effect threshold is set at 100,000 cyanobacterial cells/ml. *Id.* More long-term illnesses could
24 result from exposure at this level, in addition to skin irritation and gastrointestinal illness. WHO
25 published a tolerable daily intake (“TDI”) value of .04 µg kg bw⁻¹ corresponding to the amount
26 of potentially harmful substances that can be consumed daily over a lifetime with negligible risk
27 of adverse health effects. *Id.* WHO also sets a high risk level when algal scums are present,
28 which can increase cell densities 1000 to 1,000,000 fold and where whole body exposure to or
ingestion or aspiration of any cyanobacteria scum may occur. *Id.* When a person or animal is
exposed to cyanobacterial scum, there is a potential for acute poisoning and even death. “It has

1 been calculated that a child playing in a *Microcystis* scum for a protracted period and ingesting a
2 significant volume could receive a lethal exposure. . . .” *Id.*

3 The State of Oregon has employed a guidance level for *M. aeruginosa* and microcystin of
4 40,000 cells/ml and 8 µg/l respectively. Stone & Bress at 142 (Exhibit A). Vermont also has
5 established guidance levels of cyanobacterial blooms. Vermont closes beaches along Lake
6 Champlain where microcystins are detected at 6 µg/l or greater. *Id.* at 140. Both Oregon and
7 Vermont close beaches whenever there is a visible bacterial scum present. *Id.* at 140-41.
8 Nebraska closes lakes and beaches along lakes to recreational use when microcystins are
9 detected at 20 µg/l or higher.

10 **B. PacifiCorp’s Operations Are Resulting In Some Of The Highest Levels Of**
11 **Toxic Blue Green Algae Blooms and Microcystin’s Ever Recorded In A**
12 **Public Waterbody In The World.**

13 For many years, PacifiCorp has been aware of excessive algal blooms occurring in Copco
14 and Iron Gate Reservoirs, particularly during the summer and early fall months. *See* Kann,
15 Jacob, “*Microcystis aeruginosa* Occurrence in the Klamath River System of Southern Oregon
16 and Northern California, pp. 12 (Feb. 3, 2006) (“Kann 2006”) (Exhibit C); Letter from Russ J.
17 Kanz, Env’tl Specialist, SWRCB to Magalie R. Salas, FERC at 11 (Apr. 22, 2004) (noting the
18 presence of “offensive algal blooms and associated odors” in the reservoirs) (Exhibit D); Karuk
19 Tribe of California Submission to FERC, Recommended Terms and Conditions, Klamath
20 Hydroelectric Project at 7 (March 28, 2006) (“Karuk Terms”) (Exhibit E). Data collected by
21 PacifiCorp and the Karuk Tribe Department of Natural Resources over the last six years
22 demonstrates the occurrence of dangerous *M. aeruginosa* blooms in the Copco and Iron Gate
23 Reservoirs despite the absence of detectable levels of that algae in Klamath River water samples
24 above Copco Reservoir. Kann 2006 at 12 (“Copco/Irongate reservoir system showed significant
25 prevalence of MSAE, especially relative to Klamath River stations directly above the
26 reservoirs”); *Id.* at 15 (“both the PacifiCorp and Karuk/SWRB data clearly indicate large
27 increases in [*M. aeruginosa*] in the reservoirs relative to the Klamath River upstream”).
28 Analyses of a water sample taken from Copco Reservoir by the Klamath Basin Tribal Water
Quality Workgroup in September 2004 confirmed the presence of *M. aeruginosa* and its

1 accompanying toxin microcystin in that reservoir. Subsequently, in 2005 and 2006, the Karuk
2 Tribe Department of Natural Resources carried out comprehensive monitoring of both reservoirs
3 for the presence of cyanobacteria and microcystin, again finding very high levels of *M.*
4 *aeruginosa* within the reservoirs and no *M. aeruginosa* and very low or no levels of microcystin
5 directly above the reservoirs.

6 PacifiCorp conducted algae sampling in Copco and Iron Gate Reservoirs from 2001 to
7 2004. Kann 2006 at 9 (Table 2). Almost all of PacifiCorp's samples were taken at various
8 depths, ranging from an integrated sample extending down to 10 meters or a grab sample at
9 various depths from 0.5 meters to 8 meters. *Id.* at 12. *See also* Kann, Jacob and Eli Asarian,
10 "Technical Memorandum: Longitudinal Analysis of Klamath River Phytoplankton Data 2001-
11 2004, p. 1 (Sept. 2006) ("Kann & Asarian 2006") (Exhibit F). Because *M. aeruginosa* floats and
12 concentrates near the surface of waterbodies, PacifiCorp's data would underestimate the
13 concentrations of algae at the surface of the reservoirs where water contact recreation would
14 occur. *See* Kann & Asarian 2006 at 16; Kann, Jacob, "Partial Seasonal Summary of 2006 Toxic
15 *Microcystis aeruginosa* Trends in Copco and Iron Gate Reservoirs and the Klamath River CA,"
16 p. 12 (Nov. 2006) (Kann 2006a) (Exhibit G). Nevertheless, from July through October of the
17 sampling period, 30% of the 13 samples taken by PacifiCorp from Copco Reservoir showed
18 detectable levels of *M. aeruginosa* with 5 of those samples containing greater than 10,000 cell/ml
19 of *M. aeruginosa*. *Id.* at 9 (Table 2). Similarly, despite being taken at depth, 29% of the 12
20 samples taken from Iron Gate reservoir showed the presence of *M. aeruginosa* with 2 of those
21 samples above 10,000 cell/ml. *Id.* Notably, the two occasions where PacifiCorp directly
22 sampled the surface of the reservoirs where blooms were present contained extremely high levels
23 of *M. aeruginosa* – a 2003 sample of Copco reservoir containing 18 million cells/ml or ~20,000
24 colonies/ml and a 2005 sample reporting 6.6 million cells/ml. *Id.* at 12.

25 Levels of *M. aeruginosa* and microcystin measured in Copco and Iron Gate reservoirs
26 during 2005 and 2006 greatly exceed the health-based standards published by WHO and the
27 State of Oregon. In 2005, Susan Corum of the Karuk Tribe Department of Natural Resources
28 took samples from various locations in the two reservoirs. Kann, Jacob and Susan Corum,

1 “Summary of 2005 Toxic *Microcystis aeruginosa* Trends in Copco and Iron Gate Reservoirs on
2 the Klamath River, CA” at 3-4 (March 2006) (Kann & Corum 2006) (Exhibit H). *See also* Kann,
3 Jacob, Ph.D., “Toxic Cyanobacterial Blooms in the Klamath River System, 2005, PowerPoint
4 Presentation (Nov. 8, 2005) (“Kann PowerPoint”) (Exhibit I). The sampling locations were
5 designed to monitor various conditions and key locations within the reservoirs including open
6 water, calm shoreline areas and some shorelines adjacent to popular boat launch areas and
7 residences. *Id.* Samples were taken bi-weekly beginning in July 2005 and concluding at the
8 beginning of November 2005. *Id.* at 3, 7-9 (Table 2).

9 Beginning in July 2005, Kann and Corum measured levels of *M. aeruginosa* and
10 microcystin well-above the standards published by WHO and the State of Oregon. Cell counts
11 of *M. aeruginosa* and levels of microcystin increased as the summer progressed peaking in
12 September at a cell count of 163 million *M. aeruginosa* cells/ml and 1994.83 µg/l of microcystin
13 along the western shoreline of Copco Reservoir. Those levels exceeded the WHO moderate risk
14 levels for *M. aeruginosa* and microcystin by 1,630 times and 99.7 times, respectively. Kann &
15 Corum at 8 (Table 2). Although exhibiting variability both temporally and spatially, Kann &
16 Corum detected high levels of *M. aeruginosa* and microcystin in both reservoirs from July
17 through the end of October 2005. Levels of *M. aeruginosa* and microcystin at most of the
18 reservoir monitoring stations exceeded WHO’s moderate risk levels for the vast majority of days
19 that samples were taken from August through October. *Id.* at 12.

20 The Karuk Tribe Department of Natural Resources continued water sampling in 2006.
21 Blooms of *M. aeruginosa* once again were observed beginning in mid-July. Levels of *M.*
22 *aeruginosa* and microcystin were extremely high as soon as the blooms appeared. On July 13,
23 2006, Kann measured 11 million cells of *M. aeruginosa* per ml and an accompanying
24 microcystin level of 2,286 µg/L in Copco Reservoir. Kann 2006a at 4 (Exhibit G). That level of
25 *M. aeruginosa* was over 100 times the WHO moderate risk level and the microcystin
26 concentration was over 300 times greater than the tolerable daily intake level published by WHO
27 for a 40 pound child. *Id.* at 6 (Table 2). Similar levels of *M. aeruginosa* were detected
28 throughout the summer and into October, with a maximum level of *M. aeruginosa* of

1 393,395,000 cells/ml measured on July 27, 2006, which is 3,934 times the WHO moderate health
2 risk. *Id.* Although, microcystin results were still pending at the time of Dr. Kann's November
3 2006 report, the data for the summer months also showed consistently high levels of the toxin
4 with a maximum concentration of 12,176 µg/l measured on August 8, 2006 – 1,682 times the
5 TDI level for posting adopted by the State of Oregon and the Klamath Basin Blue-Green Algae
6 Working Group. *Id.* The levels of microcystin measured in July and August 2006 were in fact
7 the highest levels ever recorded in the two reservoirs and “among the highest recorded in the
8 world.” *Id.* at 5.

9 Although showing extremely high levels of *M. aeruginosa* and microcystin within the
10 two reservoirs in 2005 and 2006, Bureau of Reclamation's sampling of Klamath River waters
11 released from Upper Klamath Lake and Kann and Corum's sampling from just above Copco
12 Reservoir show very low levels. Indeed, in 2005, no *M. aeruginosa* was detected in any of the
13 samples of Klamath River water flowing into Copco Reservoir. Kann & Corum at 13. A similar
14 pattern of no detectable levels of *M. aeruginosa* also was observed in 2006. Microcystin was
15 either not detected or present at very low levels. Kann 2006a at 6-8 (Table 2) (“KRAC” *i.e.*
16 “Klamath River Above Copco” monitoring station; note that some microcystin data for
17 September and October was pending at time of report); *Id.* at 12-13. Likewise, *M. aeruginosa*
18 was detected in only two of seventeen samples collected by PacifiCorp above Copco Reservoir
19 from July through October, 2001-2004. Kann 2006 at 12 (Exhibit C). The highest level detected
20 by PacifiCorp during that period was 30 colonies/ml. *Id.* However, after passing through the
21 Copco and Iron Gate Reservoirs, Kann & Corum measured levels of *M. aeruginosa* in five of
22 seven samples taken below Iron Gate Dam in 2005, detecting for example a high of 42,577
23 cells/ml of *M. aeruginosa* on September 8, 2005. Kann & Corum at 7-9 (Table 2). Data
24 regarding microcystin levels was limited in 2005. *Id.* Nevertheless, with the exception of one
25 very low level of microcystin detected at the outflow from Upper Klamath Lake, no microcystin
26 was detected in samples taken above Copco Reservoir. *Id.* at 13. Low levels of microcystin
27 were detected just below Iron Gate Dam in late September and early October of 2005. *Id.* Six of
28 nine samples taken below Iron Gate Dam in 2006 showed measurable levels of *M. aeruginosa*,

1 including a high of 35,985 cells/ml discharging to downstream waters from Iron Gate on July 27,
2 2006. Kann 2006a at 6 (Table 2). Microcystin also was detected in the 2006 releases from Iron
3 Gate Dam. *Id.* at 6-7.

4 Additional data for Upper Klamath Lake does not show any appreciable amounts of *M.*
5 *aeruginosa* passed downstream from the waterbody. Kann analyzed data of *M. aeruginosa*
6 densities collected by the Klamath Tribes from 1990-1997 in Upper Klamath Lake and Agency
7 Lake (upstream of Klamath Lake). Kann 2006 at 2-7 (Feb. 3, 2006). During the July through
8 October period for the entire eight years of data collected by the Klamath Tribe, only 13 of 537
9 samples exceeded one colony of *M. aeruginosa* per milliliter. *Id.* at 7. Although *M. aeruginosa*
10 were present in Upper Klamath Lake, detected in about 13% of the Klamath Tribe samples, the
11 levels were almost always below 1 colony/ml. *Id.* Levels leaving Upper Klamath Lake also
12 were very low. PacifiCorp data from 19 samples taken during July through October in 2001 to
13 2004 in the Klamath River below Upper Klamath Lake at the mouth of the Link River did not
14 detect any *M. aeruginosa*. *Id.* at 12.

15 The Copco and Iron Gate Reservoirs are generating massive quantities and
16 concentrations of *M. aeruginosa* and microcystin. Dr. Kann cites to multiple lines of evidence
17 pointing to the role of PacifiCorp's reservoirs in creating ideal habitat conditions for *M.*
18 *aeruginosa*. Kann 2006 at 18-19. *See also* Resolution No. R1-2007-0028, ¶¶ 14-15. But for the
19 operation of the two reservoirs, including their stilling and warming of Klamath River waters,
20 little if any of the *M. aeruginosa* and accompanying microcystin detected in and downstream of
21 the reservoirs would be present. *See* Karuk Terms at 7-8 (Exhibit E); FERC Draft
22 Environmental Impact Statement for the Klamath Hydroelectric Project, Section 3 at 3-153
23 ("DEIS") (Exhibit J). As Dr. Kann concludes, "[t]aken together these data provide compelling
24 evidence that Copco and Iron Gate Reservoirs are providing ideal habitat for MSAE; increasing
25 concentrations dramatically from those upstream, and exporting MSAE to the downstream
26 environment." Kann 2006 at 19. Likewise, Dr. Kann and Asarian concluded that:

27 these analyses show that although the Klamath River receives a large loading of
28 algal biomass (made up largely of the cyanophyte, APHA) from UKL, the

1 analyzed data provide clear evidence that Copco and Iron Gate Reservoirs are
2 providing habitat conditions that foster increased overall phytoplankton
3 biovolume comprised largely of nitrogen-fixing cyanophyte species as well as
4 toxigenic [*M. aeruginosa*].

5 Kann & Asarian 2006 at 34. *See also* WHO Guide at 14, § 1.1 (Exhibit B) (“[b]y increasing
6 retention times and surface areas exposed to sunlight, impoundments change the growth
7 conditions for organisms and promote opportunities for cyanobacterial growth and water-bloom
8 formation through modifications to river discharges”).

9 **C. PacifiCorp Is Discharging Harmful Temperature, Dissolved Oxygen, And**
10 **PH Levels From Copco And Iron Gate Dams.**

11 In addition to discharging dangerous levels of *M. aeruginosa* and microcystin, PacifiCorp
12 also is discharging levels of temperature, dissolved oxygen and pH that are harmful to the
13 beneficial uses of the Klamath River. The Regional Board already has identified the Klamath
14 River as impaired by temperature and low dissolved oxygen (as well as nutrients). 2002 Section
15 303(d) List of Water Quality Limited Segments at 9 (North Coast Regional Board, approved by
16 EPA July 2003) (“303(d) List”). The Regional and State Boards should address these pollutants,
17 as well as any other pollutants identified through the permitting process, by issuing appropriate
18 WDRs fully implementing the Klamath River’s water quality standards.

19 PacifiCorp is discharging both low and high levels of temperature from its dam
20 operations that are detrimental to anadromous fish of the Klamath River, including Chinook
21 salmon. The effects of PacifiCorp’s temperature discharges can be easily discerned by
22 PacifiCorp’s own monitoring at least 50 miles downstream. DEIS at 3-136 (Exhibit J). In the
23 fall, PacifiCorp’s discharges include high temperature waters that are detrimental to the
24 spawning of fall run Chinook. Although the temperature of the Klamath River during the
25 summer would not be ideal for spawning salmon even without the presence of PacifiCorp’s
26 hydroelectric project, according to PacifiCorp’s temperature modeling, acceptable river
27 temperatures normally would be reached by early September in time for the natural spawning
28 timing of the native fall run Chinook salmon. Karuk Terms at 10. PacifiCorp’s dams and
reservoirs delay the cooling of the Klamath’s waters for at least three weeks. *Id.* PacifiCorp’s

1 delaying of cooler fall waters in the Klamath likely is the cause of a corresponding delay by
2 approximately three weeks of spawning by fall run Chinook salmon in the Klamath below Iron
3 Gate Dam. *Id.* at 12. That delay leads to additional stresses on the fish, including unnatural
4 competition and contact with other runs of fish in the lower Klamath River. *Id.*

5 In the spring, PacifiCorp discharges colder water from Iron Gate Dam than would
6 naturally occur. Karuk Terms at 9. By unnaturally maintaining cooler waters in the Klamath
7 River below Iron Gate Dam, PacifiCorp stunts the growth rate of juvenile salmon preparing to
8 out-migrate. *Id.* Smaller juvenile fish progress more slowly downriver, prolonging their
9 exposure to stresses within the river, including parasites and predators. *Id.* As a result, the
10 smaller fish resulting from PacifiCorp's discharge of cold water in the spring have a smaller
11 chance of surviving their migration out to sea and ultimately returning to spawn in the Klamath
12 River. *Id.*

13 PacifiCorp's discharges of water containing low levels of dissolved oxygen are well-
14 documented. "[FERC's] review of available DO data and modeling results from downstream of
15 Iron Gate dam indicates that during the warmer months of the year, project operations results in
16 DO that does not meet applicable water quality objectives." DEIS at 3-141. Discharges from
17 Iron Gate Dam during the summer months frequently dip below 6 mg/l of dissolved oxygen, well
18 below the minimum level deemed necessary to avoid stresses on salmon. Karuk Terms at 29.
19 The lower depths of PacifiCorp's reservoirs are hypoxic during the summer. For example, the
20 bottom 50 feet of Iron Gate Reservoir are hypoxic during the summer months. *See* PacifiCorp
21 Background at 9-3. In addition, large quantities of algae in the reservoirs also consume oxygen.
22 *See* Karuk Terms at 31.

23 Inflated pH levels also result from PacifiCorp's operation. pH levels of 8.5 are stressful
24 to salmon and levels above 9.6 kill salmon. Karuk Terms at 32. PacifiCorp frequently releases
25 very high pH levels exceeding 8.5 in water from Iron Gate Dam. *Id.* Salmon exposed to these
26 high pH levels are stressed.

1 **D. Petitioners And Their Members Have Been And Are Being Exposed To**
2 **Toxins And Adversely Affected By Pollutants Released By PacifiCorp.**

3 Petitioners and their members also regularly use the Klamath River below the reservoirs
4 as well as while it passes through the reservoirs.

5 The Karuk Tribe is a federally recognized tribe with ancestral homelands bisected by the
6 Klamath River. Historically, the Karuk occupied over 90 villages along the Klamath and Salmon
7 Rivers with fisheries associated with each. Today, the Karuk fishery is limited to a ceremonial
8 and subsistence dip net fishery at Ishi Pishi Falls near Somes Bar, California. In addition to direct
9 exposure to microcystin through fishing, Karuk ceremonial leaders are exposed while conducting
10 and participating in religious and cultural ceremonies. For example, the Pikiowish, or World
11 Renewal, ceremonies are conducted in accordance to a lunar calendar, but are typically held from
12 early August to early September. Note this coincides with the blooms of *M. aeruginosa* in
13 reservoirs upstream of ceremonial sites. The ceremonies require priests and practitioners to bathe
14 ritualistically in the Klamath River for days at a time. This makes ceremonial leaders and
15 participants more likely to suffer adverse health impacts than your average recreational user.
16 Degradation of fisheries in the Klamath River from PacifiCorp's discharges of low or high
17 temperature water, low dissolved oxygen and high pH also have detrimental impacts on the
18 salmon that are integral to the Karuk Tribe's cultural, religious and subsistence practices.

19 PCFFA's and IFR's commercial fishing members make their livelihoods harvesting and
20 marketing salmon from the Klamath River, including harvesting hatchery fish reared just below
21 Iron Gate Dam at Iron Gate Hatchery, by which activities these fish are introduced into the chain
22 of commerce for consumption by the general public. Any trace of these toxins in commercially
23 sold fish could devastate consumer confidence in this food source and destroy their markets.

24 Klamath Riverkeeper's members recreate throughout the Klamath River watershed,
25 engaging in fishing, hiking, boating and observing wildlife. Members of Riverkeeper use
26 Klamath River waters both within and downstream of the Iron Gate and Copco Reservoirs.
27 Since its formation, Riverkeeper has been directly involved in numerous water quality
28

1 proceedings regarding the Klamath River, including TMDL development for the river as well as
2 its tributaries.

3 PacifiCorp's introduction of excessive levels of *M. aeruginosa* and microcystin to the
4 Klamath River as it passes through their hydroelectric dams and reservoirs exposes Petitioners,
5 their members and the general public to dangerous levels of toxins, significantly impairs their
6 ceremonial, recreational, and aesthetic uses of the river and could adversely affect their
7 livelihoods and their health.

8 PacifiCorp's operations also result in an unsightly green tint to vast expanses of both the
9 Copco and Iron Gate Reservoirs. *See, e.g.* Kann 2006a at 9. The discoloration of the waters of
10 the Klamath River violates the Basin Plan's narrative standard for color and degrades
11 Petitioners' and the public's enjoyment of the river as it passes through the reservoirs.
12 PacifiCorp's operations result in unsightly floating scum within the two reservoirs, also
13 impairing Petitioners' and the public's aesthetic enjoyment of the Klamath River as it passes
14 through PacifiCorp's operations. PacifiCorp's introduction of excessive levels of *M. aeruginosa*
15 and microcystin into the waters of the Klamath River have made those waters effectively
16 unusable by Petitioners and the public from July through October. As the Regional Board's
17 Executive Officer stated in a press release issued on September 30, 2005, "The public needs to
18 take the microcystin toxin in this algae seriously . . . The levels of algae and associated toxins
19 measured in parts of the river are high enough to pose health risks to anyone drinking or bathing
20 in the water, particularly children and animals." U.S. EPA Region 9 Press Release, "Federal,
21 state and tribal authorities advise caution on dangerous Klamath River algae" (Sept. 30, 2005)
22 (Exhibit K). Indeed, at the behest of the Regional Board and EPA, the two reservoirs have been
23 posted with health advisories warning people to "avoid water contact on Copco and Iron Gate
24 Reservoirs due to high levels of blue-green algae that can produce harmful toxins. . . . Children
25 and pets are at greatest risk." Regional Board Health Warning Sign (Exhibit L). Despite the
26 posted warnings, people may still use the reservoirs for recreation. *See* Kann & Corum 2006 at
27 22 (photograph of water skier in area of active bloom); S. Corum, photograph taken on October
28 18, 2005 of man fishing in algae bloom with measured cell count of 8.8 million cells/ml along

1 north shore of Iron Gate Reservoir (Exhibit M). Levels of *M. aeruginosa* and microcystin
2 measured in Copco and Iron Gate reservoirs from July through October are consistently well
3 above the moderate risk health standards set by the World Health Organization. The levels also
4 consistently exceeded TDI and posting levels established by the State of Oregon. Dr. Kann,
5 applying the WHO and State of Oregon standards, concludes that:

6 [M. aeruginosa] bloom conditions in Copco and Iron Gate Reservoirs in 2006
7 represented a clear public health risk with respect to water contact recreation.
8 Maximum [M. aeruginosa] cell density and microcystin concentrations measured
9 in 2006 were higher than those in 2005, and were among the highest reported in
10 the literature (e.g., Chorus and Bartram 1999). The maximum microcystin value
11 of 12,176 µg/L exceeded the 8 µg/L threshold level by 1522 times. Monitoring
12 data in 2006 show that the 2005 conditions were not anomalous and that toxigenic
13 blooms are likely to be a recurring phenomenon.

14 Kann 2006.

15 In addition to those clear direct impacts to Petitioners, PacifiCorp's pollution emanating
16 from the two reservoirs also poses serious threats to pets and wildlife. According to Siskiyou
17 County public health officer Terry Barber, "[o]ccasionally domestic animals and livestock have
18 been poisoned by toxins in the algae bloom." Siskiyou Daily News, "Health risks of blue-green
19 algae were overstated" (Aug. 26, 2005) (Exhibit N). There is also anecdotal evidence from a
20 landowner on the Copco Reservoir of one or more animal deaths in the late 1990's. S. Corum
21 (pers. comm.).

22 The levels of microcystin detected in the Klamath reservoirs also indicate a potential for
23 toxin accumulation in fish tissue. Kann 2006a at 12. Several studies indicate that microcystin
24 may be bioaccumulative. See Magalães, V.F., et al., "Microcystins (cyanobacteria hepatotoxins)
25 bioaccumulation in fish and crustaceans from Sepetiba Bay (Brasil, RJ)," Toxicon 42 (2003)
26 (Exhibit O); Liqiang, X. et al., "Organ distribution and bioaccumulation of microcystins in
27 freshwater fish at different trophic levels from the eutrophic Lake Chaohu, China," Env'tl
28 Toxicology, Vol. 20, Issue 3 (2005) (Exhibit P). Indeed, the Yurok Tribe's Environmental and
Fisheries Programs, despite a very limited number of samples, has already detected trace levels
of microcystin in steelhead livers from fish collected in the lower Klamath River. Kann 2006 at
18. "Although sample size is limited, low to trace quantities of microcystin in steelhead livers in

1 the lower Klamath River indicate that these fish were exposed to toxin levels in the river
2 environment, and indicate the potential for toxin uptake to occur.” *Id.* No one yet has attempted
3 to measure microcystin levels in rainbow trout, yellow perch, largemouth bass and other fish
4 caught and eaten by recreational anglers in Copco and Iron Gate Reservoirs, though apparently
5 the State Board is planning to do some fish tissue sampling this year. Because of their proximity
6 to the *M. aeruginosa* blooms and residence in waters known to be high in microcystin
7 concentrations, one would expect the threat of microcystin accumulation to be even greater in
8 those fish.

9 **VI. REQUESTED STATE BOARD ACTION.**

10 Petitioner’s request the State Board to issue an order 1) ruling that Finding 18 of
11 Regional Board Resolution No. R1-2007-0028 errs as a matter of law; 2) vacating Resolution
12 No. 1 at page 6 of Resolution No. R1-2007-0028; 3) requiring PacifiCorp to immediately submit
13 a report of waste discharge to the Regional Board and to take immediate steps (outlined below)
14 to mitigate pollution releases expected to begin in July 2007, and; 4) remand the matter back to
15 the Regional Board for further action consistent with the State Board’s order.

16 To date, the only direct governmental responses to the toxic algae blooms in Copco and
17 Iron Gate Reservoirs have been the monitoring efforts of the Karuk and Yurok Tribes, funding to
18 support that monitoring by EPA and the State Board, and some public notice efforts by EPA and
19 the State and Regional Boards. In various documents to date, PacifiCorp cavalierly shrugs off
20 any responsibility for the blue-algae scum and extremely high cell counts and toxin levels
21 impairing the Klamath River waters flowing through its Copco and Iron Gate dams and
22 reservoirs. As the State Board has commented regarding PacifiCorp’s submittals to the Federal
23 Energy Regulatory Commission re-licensing proceeding:

24 PacifiCorp appears to assert that the reservoirs play no role in the aesthetic
25 conditions – the offensive algal blooms and associated odors. PacifiCorp
26 attributes the conditions to agriculture and other upstream sources ignoring the
27 role that the reservoirs play in establishing conditions for the overgrowth of algae.
28 PacifiCorp also implies that, if not for the recreation opportunities offered by the
reservoirs, no one would be offended because the conditions would not be
noticed. SWRCB staff are concerned that PacifiCorp does not understand their

1 contribution, or obligations to protect water quality. The designated beneficial
2 uses for the reservoirs must be protected.

3 Letter from Russ J. Kanz, SWRCB, to Magalie R. Salas, FERC (Apr. 21, 2004). Although
4 PacifiCorp has conducted some cursory monitoring of blue-green algae levels, the company's
5 monitoring results were not available to the public in general until several years after the
6 sampling events, if at all. It is the Petitioners' understanding that PacifiCorp currently is not
7 conducting any monitoring for cyanobacteria or microcystins.

8 As important as funding and efforts to notify the public of health threats in the reservoirs
9 may be, the Boards' efforts should not end there. The Boards have an ongoing responsibility to
10 protect water quality and to assure compliance by PacifiCorp with all applicable water quality
11 standards. The most effective tool immediately available to the Regional Board and State Board
12 is the issuance of WDRs coupled with preliminary compliance orders to PacifiCorp for the two
13 dams and reservoirs. WDRs and initial compliance orders would address important gaps in the
14 current regulatory response to the blue-green algae problem in Copco and Iron Gate reservoirs.

15 First, PacifiCorp should be required to immediately implement a robust sampling and
16 monitoring program for both the reservoirs and upstream and downstream reaches of the
17 Klamath River. PacifiCorp's monitoring should include comprehensive bioassays of rainbow
18 trout and other fish in the reservoirs as well as downstream to determine any accumulation of
19 microcystin in their livers and filets. Such monitoring should compliment the ongoing
20 monitoring efforts of the Tribes.

21 Second, PacifiCorp should be required to immediately implement measures that may
22 reduce levels of *M. aeruginosa* and microcystin in the two reservoirs and downstream waters. At
23 a minimum, PacifiCorp should be required to provide a pilot project, approved by the Regional
24 Board or State Board after expedited public review and comment, to test a technology for
25 reducing cell counts and microcystin levels in surface waters of the reservoirs. The schedule
26 should be accelerated in order to implement a successful mitigation measure by mid-summer of
27 this year.

1 Third, the Regional Board has found that, in interpreting the Basin Plan's narrative
2 standards, it is appropriate for the Board to apply the WHO standards and California Department
3 of Health Service's guidance. *See* Resolution No. R1-2007-0028, ¶ 10. The State Board should
4 establish a schedule of compliance of not greater than five years for PacifiCorp to achieve all
5 applicable water quality standards implemented through specific numeric cell counts and
6 microcystin levels. By such date, PacifiCorp will have had to implement all feasible measures,
7 including if necessary the decommissioning and dismantling of Copco and Iron Gate Dams, in
8 order to comply with the Klamath River's water quality standards.

9 Protecting the Klamath River's water quality does not have to wait for the ongoing FERC
10 proceeding to run its lengthy course. "Nothing in this article [the certification regulations] is
11 intended to limit or prevent the state board or regional boards in any way from issuing or
12 waiving issuance of waste discharge requirements for any activity." 23 CCR § 3857. The FERC
13 proceedings and the State Board's 401 certification process for that proceeding will not be
14 capable of addressing toxic algae blooms this coming summer.

15 Should the State Board deny certification – as it should given the rampant violations of
16 water quality standards resulting from PacifiCorp's project – the FERC process could drag on for
17 many years. By developing and issuing WDRs, the Boards would put in place their own, state-
18 based process designed to ensure that California's waters are protected even assuming the FERC
19 proceeding drags on for some time. If, by chance, the FERC process was completed sooner,
20 WDRs, if available quickly enough, would provide a potentially useful framework upon which
21 the State Board's certification decision could rest. At a minimum, the responsibility for data
22 gathering and a clear deadline for complying with all pollution standards would be placed
23 squarely on the polluter's shoulders where it belongs.

24 **VII. STATEMENT OF POINTS AND AUTHORITIES.**

25 **A. PacifiCorp Is Discharging Waste In Violation Of The Porter-Cologne Water** 26 **Quality Control Act.**

27 PacifiCorp is releasing blue-green algae, scums, toxins and other pollutants from its
28 Copco Dam and Iron Gate Dam operations into the Klamath River in violation of the Porter-

1 Cologne Act. PacifiCorp has never submitted a report of waste discharge to the Regional Board
2 seeking authorization for PacifiCorp's discharges of excessive algae and toxins. PacifiCorp does
3 not have a waste discharge requirement authorizing the company to introduce massive algae
4 blooms and high concentrations of dangerous toxins into the Klamath River. By issuing WDRs,
5 the Boards could take immediate steps to require PacifiCorp to begin mitigating the harms
6 caused by PacifiCorp's algae blooms and toxin releases, require PacifiCorp to shoulder its
7 responsibility to monitor the nuisance conditions and violations of water quality standards it is
8 causing, and to set a prompt timeline for PacifiCorp to take all measures, including potentially
9 the decommissioning and dismantling of the two dams, necessary to preventing nuisance
10 conditions or continued violations of water quality standards in the Klamath River.

11 **1. Algae Blooms And Microcystin Releases Within The Reservoirs Or**
12 **From the Dams Are Waste Discharges.**

13 The Regional Water Quality Control Boards and the State Water Resources Control
14 Board are "the principal state agencies with primary responsibility for the coordination and
15 control of water quality." Water Code § 13001. "'Water quality control' means the regulation of
16 any activity or factor which may affect the quality of the waters of the state, and includes the
17 prevention and correction of water pollution and nuisance." Water Code § 13050(i).

18 Any person discharging or proposing to discharge waste to any waters within the State of
19 California is required to file a report of waste discharge with an appropriate Regional Water
20 Quality Control Board. Water Code § 13260. "Waste" is defined by the Water Code as
21 including "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive,
22 associated with human habitation, or of human or animal origin, or from any producing,
23 manufacturing, or processing operation, including waste placed within containers of whatever
24 nature prior to, and for purposes of, disposal." Water Code § 13050(d). The term "discharge of
25 waste" in Porter-Cologne covers nonpoint as well as point sources of pollution. "'Discharges of
26 waste' are not limited to waste disposal, but also include releases of pollutants as part of other
27 activities. Hydrological or hydrogeological modifications, for example, that cause the release of
28 wastes into state waters may be regulated under WDRs." State of California S.B. 469 TMDL

Guidance: A Process For Addressing Impaired Water In California at 7-2 (June 2005) (approved by Resolution 2005-0050). Even where the operator of a dam and its accompanying reservoir is not the initial source of pollutants which are detained or concentrated within the reservoir, the dam operator is subject to the Water Code's prohibition on discharges of waste. *Lake Madrone Water Dist. v. State Water Resources Control Bd.* (1989) 209 Cal.App.3d 163, 165-171. Where a person constructs or operates a dam which causes the release of biological materials, temperature changes or changed oxygen levels, this is also a discharge of waste governed by the Water Code's permitting scheme.

Upon receipt of a report of waste discharge, a regional board must issue waste discharge requirements ("WDRs"), or waive with appropriate conditions the issuance of WDRs, within 120 days. 27 California Code of Regulations ("CCR") § 10302(b) ("The (SWRCB)/(RWQCB) shall adopt Waste Discharge Requirements within 120 days of receiving a completed application").

PacifiCorp, by maintaining and operating the Copco and Iron Gate Dams and Reservoirs, is causing the release of excessive amounts of *M. aeruginosa*, microcystin toxin and other pollutants in violation of numerous Basin Plan standards. But for the presence of the dams and their accompanying reservoirs, the algae blooms and toxin releases would not occur in the stretch of the Klamath River currently altered by PacifiCorp's facilities. All of the monitoring evidence shows that water entering the Copco Reservoir is generally free of *M. aeruginosa* and microcystin. Once the waters of the Klamath River are detained behind the two dams however, dangerous levels of *M. aeruginosa* and microcystin appear. PacifiCorp has, with its dams and reservoirs, created a *M. aeruginosa* and microcystin factory which, as currently operated or maintained, will continue to produce dangerous levels of algae and toxin.

2. PacifiCorp Has Failed To File A Report Of Waste Discharge With the Regional Board Regarding Its Releases Of *M. aeruginosa* and Microcystin At The Copco And Iron Gate Dams And Reservoirs.

PacifiCorp is violating Section 13260 of the Water Code because the company has not submitted a report of waste discharge for its releases of *M. aeruginosa* and microcystin into and from the Copco and Iron Gate Reservoirs. Starting in July, 2007, PacifiCorp's operations will again generate massive, unsightly algae blooms and dangerous toxin levels in both the Copco

1 and Iron Gate Dam reservoirs. Both the Regional Board and the State Board have an obligation
2 to protect and control water quality now and begin to address that obvious, serious Klamath
3 River pollution problem.

4 **B. The Federal Power Act’s Preemption of State Law Does Not Extend to the**
5 **State of California’s Laws Regulating Water Quality of the Waters of the**
6 **State.**

7 The Regional Board denied the petition based on the erroneous conclusion that the
8 United States Supreme Court has ruled that the FPA preempts state law, including the state’s
9 water quality control laws. Resolution No. R1-2007-0028, ¶ 18. Contrary to the Regional
10 Board’s statement, Congress did not evince an intention, either expressly or implicitly, to occupy
11 the field of water quality regulation pursuant to the FPA. Congress did intend to
12 comprehensively address water quality regulation in enacting the Federal Water Pollution
13 Control Act, 33 U.S.C. § 1251 *et seq.* In so doing, Congress, stated its clear intention that State’s
14 not only would have veto power over any federal license or permit for facilities which may result
15 in any discharge to navigable waters if such discharges would not comply with the State’s water
16 quality standards or other State water quality law (33 U.S.C. § 1341(a)), but also to preserve the
17 State’s authority to regulate water quality. 33 U.S.C. §§ 1341(b), 1370. By expressly
18 articulating in the FWPCA its intent to preserve the States’ authority to regulate water quality,
19 Congress expressly disavowed any intent to preempt such authority, implicitly or otherwise,
20 when enacting the FPA or its amendments. Accordingly, whether pursuant to the FWPCA or
21 any State law enacted to regulate water quality – in California’s case the Porter-Cologne Water
22 Quality Control Act, Water Code § 13000 *et seq.* – the Regional Board and the State Water
23 Resources Control Board are free to regulate to address water quality issues present within and
24 downstream from the Copco and Iron Gate Reservoirs utilizing their permitting and enforcement
25 authorities provided in Porter-Cologne and preserved by Congress.

26 **1. Legal Background Regarding Federal Preemption.**

27 Whether or not Congressional legislation preempts a state law starts with the assumption
28 “that the states’ police powers were not to be superseded ‘unless that was the clear and manifest

1 purpose of Congress.”” *Pacific Legal Foundation v. State Energy Resources Conservation &*
2 *Development Comm’n*, 659 F.2d 903, 919 (9th Cir. 1981), *rehearing denied* (1982), *citing Rice v.*
3 *Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947). Congress’ intent to preempt state law can
4 be explicitly stated by Congress. *Bronco Wine Co. v. Jolly* (2005) 33 Cal.4th 943, 955.
5 Preemption also may be inferred from the nature of the regulatory scheme, but “Congressional
6 intent to preempt must . . . be unambiguous. *Pacific Legal*, 659 F.2d at 919, *citing Florida Lime*
7 *& Avocado Growers, Inc. v. Paul*, 373 U.S. 132, 146-47 (1963). The California Supreme Court
8 has discerned three mechanisms by which Congress may impliedly preempt state law. Congress
9 may impliedly preempt “when it is clear that Congress intended, by comprehensive legislation,
10 to occupy the entire field of regulation, leaving no room for the states to supplement federal
11 law.” *Bronco Wine*, *supra*, 33 Cal.4th at 955. The other two methods of implied preemption
12 involve situations where “compliance with both federal and state regulations is a physical
13 impossibility, or where the state law ‘stands as an obstacle to the accomplishment and execution
14 of the full purposes and objectives of Congress. . . .’” *Id.* *See also Pacific Legal*, 659 F.2d at
15 919 (citations omitted). Where preemption is based on a conflict, the state law is presumably
16 valid unless an actual conflict is fully realized: “courts are not to seek out conflicts between state
17 and federal regulation where none clearly exist.” *Pacific Legal*, 659 F.2d at 919. Simply
18 because a federal statute is detailed and complex does not infer Congress’ intent to preempt any
19 state law. *Pacific Legal*, 659 F.2d at 919. Nor does the fact that state law touches an area of
20 national concern mean the state law is preempted. *Id.*

21 In discerning Congress’ intent to occupy a regulatory field, the courts may look to “the
22 entire federal statutory scheme relative to a particular subject matter, especially when that subject
23 matter is dealt with under a number of separate enactments. . . .” *Chevron U.S.A., Inc. v.*
24 *Hammond*, 726 F.2d 483, 491 n. 10 (9th Cir. 1984); *Silkwood v. Kerr McGee Corp.*, 464 U.S.
25 238, 251-52 (1984). In *Chevron U.S.A.*, the Ninth Circuit considered whether Congress by
26 enacting the Ports and Waterways Safety Act of 1972, *as amended* by the Ports and Tanker
27 Safety Act of 1978, 46 U.S.C. § 391a (collectively “PWSA”), intended to preempt state laws
28 regulating ballast water discharges from tankers within states’ territorial waters. *Id.* at 486. The

1 Ninth Circuit, noting the absence of any clear statement regarding preemption in the legislative
2 history for the PWSA, looked to numerous other federal statutes, including the FWPCA, which
3 “provide[d] convincing evidence of Congress’ intent that, within three miles of shore, the
4 protection of the marine environment should be a collaborative federal/state effort rather than an
5 exclusively federal one.” *Id.* at 483. As the Ninth Circuit explained:

6 Particularly where two federal statutes have overlapping areas of regulation, as do
7 the CWA and PWSA/PTSA, it is permissible and helpful to examine the history
8 and context under which they were enacted. This history and context may include
9 other statutes, executive orders, hearings of legislative committees dealing with
10 the subject matters of regulation, and, as in this case, pertinent international
11 agreements and statutes adopting them.

12 *Id.* at 491 n. 10. “[T]he subject matter of regulation is critical in preemption analysis. Therefore,
13 in making a preemption analysis, a court should examine those concerns emphasized by
14 Congress in enacting the subject legislation.” *Id.* at 487.

15 **2. Past Court Rulings Analyzing The FPA’s Preemption Of State Law
16 Do Not Address Whether Congress Intended For The FPA To
17 Preempt State’s Authority To Regulate The Field Of Water Quality
18 Nor Do They Reconcile Congress’ Intent To Preserve State’s Water
19 Quality Authority In The FWPCA.**

20 The key question is whether the Federal Power Act preempts the State of California’s
21 application of its water quality laws to PacifiCorp and discharges of pollution by the company to
22 the Klamath River. Several cases decided outside of the context of State regulations either under
23 the FWPCA or preserved by that statute would appear to suggest that Congress preempted any
24 and all state regulation of federal hydropower facilities. Although preempting many areas of
25 state law, the cases addressing the preemptive effect of the FPA do not address the field of water
26 quality regulation and predate key decisions by the Supreme Court recognizing the States’
27 authority to condition and veto licenses issued by FERC based on water quality concerns.

28 In *Sayles Hydro Associates v. Maughan*, 985 F.2d 451 (9th Cir. 1993), the Ninth Circuit
did not examine or address whether Congress intended to occupy the field of water quality
regulation for hydropower facilities by enacting the FPA. The Ninth Circuit held that, in
enacting the FPA, Congress occupied the field of hydropower dam licensing. That case involved

1 a hydroelectric dam located within a national forest in California that had been duly licensed by
2 FERC. 985 F.2d at 453. The dam could not operate though because the State Board had not
3 issued a state permit authorizing the dam's operation. *Id.* The State Board was proceeding
4 pursuant to its water rights permitting authority. *Id.* at 453 (referring to the State's water rights
5 permit process). In that context, and at least in terms of California's law addressing water rights
6 pertinent to a hydroelectric dam, the Court of Appeals ruled that Congress had occupied the field
7 of hydropower dam licensing. *Id.* at 455-456. The Court also held that the state law applied by
8 the State Board was "an obstacle to the accomplishment of the full purposes and objectives of
9 Congress in authorizing the Federal Energy Regulatory Commission to license the project to
10 proceed." *Id.* at 456. Nothing in the Ninth Circuit's decision addressed preemption by the FPA
11 in the context of the State of California exercising its authority to regulate water quality pursuant
12 to California's water quality laws addressed or expressly preserved by Congress in the FWPCA.

13 In its decision, the Ninth Circuit relies upon the then-recent Supreme Court decision in
14 *California v. Federal Energy Regulatory Commission*, 495 U.S. 490 (1990). As is the case with
15 *Sayles*, the Supreme Court in *California v. FERC* did not address whether or not in the FPA
16 Congress intended to occupy the field of water quality regulation for hydropower facilities. In
17 *California v. FERC*, the Supreme Court interpreted a savings clause set forth in Section 27 of the
18 FPA as only preserving states' authority to regulate proprietary rights to water allocations for
19 irrigation and municipal-type uses. 495 U.S. at 506.² However, as for non-proprietary water
20 rights, including flows through a federally-licensed hydropower facility, the FPA preempted the
21 States' regulatory authority over water rights. *Id.* The Court held that the State Board's effort to
22 require greater in-stream flows by a hydroelectric facility than called for in the conditions of the
23 facility's FERC-issued license was invalid:

24
25 ² The FPA's savings clause reads "Nothing contained in this chapter shall be construed as
26 affecting or intending to affect or in any way to interfere with the laws of the respective States
27 relating to the control, appropriation, use, or distribution of water used in irrigation or for
28 municipal or other uses, or any vested right acquired therein." 16 U.S.C. § 821. On its face, this
provision of the FPA does not indicate an express intent by Congress to occupy the field of water
quality regulation of hydropower facilities.

1 we conclude that the California requirements for minimum in-stream flows cannot
2 be given effect and allowed to supplement the federal flow requirements. A state
3 measure is “pre-empted to the extent it actually conflicts with federal law, that is,
4 when it is impossible to comply with both state and federal law, or where the state
law stands as an obstacle to the accomplishment of the full purposes and
objectives of Congress.”

5 495 U.S. at 506, *citing Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 248 (1984)
6 (citations omitted). In *California v. FERC*, the State Board was again not exercising any
7 regulatory authority over water quality falling within the broad ambit of the FWPCA
8 including its broad preservation of the states’ authority to regulate water quality under
9 state law.

10 **3. Because States Are Authorized To Veto FERC Licenses**
11 **Pursuant To Section 401 Of The FWPCA, The FPA Could Not**
Possibly Occupy The Field Of Water Quality Regulation.

12 A critical subsequent decision by the Supreme Court makes clear that the scope of the
13 regulatory field Congress occupied with the FPA does not extend to State’s water quality
14 regulations. Subsequent to *California v. FERC* and *Sayles*, the Supreme Court issued its ruling
15 in *PUD No. 1 of Jefferson County v. Washington Dep’t of Ecology*, 511 U.S. 700 (1994). That
16 case also involved a FERC licensing proceeding and the scope of States’ authority to regulate
17 pollution associated with hydroelectric facilities pursuant to the FWPCA. The case dealt with
18 Section 401 of the FWPCA, authorizing states to certify that the issuance of a federal permit or
19 license would be consistent with the State’s water quality standards and providing for the state to
20 add conditions to such federal permits or licenses. In *PUD No. 1*, the Supreme Court ruled that
21 the Washington Department of Ecology had authority to add flow requirements to a FERC
22 license for a hydropower dam through section 401. 511 U.S. at 723. The Court ruled that a
23 state could require minimum stream flows from a hydropower facility despite petitioners’
24 argument that FERC had comprehensive authority to license hydropower facilities pursuant to
25 the FPA. *Id.* at 722-23.

26 The Supreme Court’s ruling in *PUD No. 1* provides considerable clarification regarding
27 whether or not the FPA preempts a state’s regulations of water quality. First, the Supreme Court
28 makes clear that in enacting the FPA, Congress clearly did not intend to occupy the field of water

1 quality regulation. Obviously, Congress left that considerable field of environmental protection
2 to the FWPCA and, through the FWPCA, to the States. “Although an express preemption
3 provision may indicate congressional intent to preempt “at least some state law,” a court must
4 nevertheless “‘identify the domain expressly pre-empted’ by that language.” *Pagarigan v.*
5 *Superior Court* (2002) 102 Cal.App.4th 1121, 1137. To determine the scope of even an express
6 preemption of state law by a federal law, the courts apply two presumptions. “First, as in
7 answering the threshold question of whether Congress intended preemption to occur, the
8 assumption that preemption will not lie absent evidence of a clear and manifest congressional
9 purpose must also be applied in measuring the “scope of [Congress’s] intended invalidation of
10 state law.” *Id.* at 1137-38, *citing Medtronic, Inc. v. Lohr*, 518 U.S. 470, 485 (1996) (emphasis
11 supplied). “Second, while Congress’s intent “primarily is discerned from the language of the
12 pre-emption statute and the ‘statutory framework’ surrounding it, also relevant ... is the structure
13 and purpose of the statute as a whole, as revealed not only in the text, but through the reviewing
14 court’s reasoned understanding of the way in which Congress intended the statute and its
15 surrounding regulatory scheme to affect business, consumers, and the law.” *Id.* (citations
16 omitted). Applying these principles, it is clear that the FWPCA is Congress’ express intent
17 preserving all State water quality authority, even in the context of facilities licensed pursuant to
18 the FPA, and conclusively demonstrating that Congress did not occupy the water quality
19 regulatory field through the FPA.

20 Second, the Supreme Court’s ruling in *PUD No. 1* makes clear that Congress intended for
21 the FWPCA to be the comprehensive statement of its intentions of how the state’s and federal
22 government would address water quality, even in the context of a hydroelectric project. Despite
23 the Court’s previous ruling in *California v. FERC* that a state’s authority to regulate stream flows
24 through a hydropower facility under state law was preempted by the FPA, the Court’s ruling in
25 *PUD No. 1* finds that, within the four corners of the FWPCA, no such limitation exists. The
26 Court held that Congress intended that State’s could address all water pollution issues arising
27 from a FERC license through the Section 401 certification process. This includes a State’s right
28 to protect water quality by requiring minimum flows in such a license.

1 However, Congress' intent to comprehensively address water quality issues and pollution
2 through the FWPCA does not end with the Section 401 certification procedure. Congress
3 expressly indicated its intent to preserve all governmental entities' water quality authority both in
4 Section 401, 33 U.S.C. § 1341, and more generally at Section 510, 33 U.S.C. § 1370. Section
5 401(b), 33 U.S.C. § 1341(b), provides that "[n]othing in this section shall be construed to limit
6 the authority of any department or agency pursuant to any other provision of law to require
7 compliance with any applicable water quality standard." Section 510, 33 U.S.C. § 1370,
8 provides that "nothing in this chapter shall (1) preclude or deny the right of any State or political
9 subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation
10 respecting discharges of pollutants, or (B) any requirement respecting control or abatement of
11 pollution . . ." unless such requirement is less stringent than a requirement under the FWPCA.
12 Congress' intent to preserve the States' authority to regulate water quality also is manifest in the
13 FWPCA's goals, which state in pertinent part, that "[i]t is the policy of the Congress to
14 recognize, preserve, and protect the primary responsibilities and rights of States to prevent,
15 reduce, and eliminate pollution, to plan the development and use (including restoration,
16 preservation, and enhancement) of land and water resources, and to consult with the
17 Administrator in the exercise of his authority under this chapter." 33 U.S.C. § 1251(b).
18 Congress did not address water quality comprehensively under the FPA for hydropower
19 facilities. Congress did take a comprehensive approach to water quality regulation in the
20 FWPCA, expressly preserving all of the State's power to regulate water quality, especially where
21 it was more stringent than the minimum federal requirements.

22 Other components of the federal scheme also require the state's to apply their state laws
23 to address nonpoint pollution in order to comply with the FWPCA's federal requirements.
24 Whether or not a proposed federal license is being processed to which the Section 401
25 certification process applies, Congress intended the States to address both point and nonpoint
26 pollution immediately. *See, e.g. S.D. Warren Co. v. Maine Bd. of Env't'l Protection*, 126 S.Ct.
27 1843, 1852-53 (2006) ("the Act does not stop at controlling the 'addition of pollutants,' but deals
28 with "pollution' generally, see §1251(b), which Congress defined to mean 'the man-made or

1 man-induced alteration of the chemical, physical, biological, and radiological integrity of water..
2 §1362(19)”; 33 U.S.C. § 1251(a)(2) (“it is the national goal that wherever attainable, an
3 interim goal of water quality which provides for the protection and propagation of fish, shellfish,
4 and wildlife and provides for recreation in and on the water be achieved by July 1, 1983”); §
5 1251(a)(7) (“it is the national policy that programs for the control of nonpoint sources of
6 pollution be developed and implemented in an expeditious manner so as to enable the goals of
7 this chapter to be met. . .”). For example, Congress requires States to establish total maximum
8 daily loads in order to address both point and nonpoint sources of pollution. 33 U.S.C. §
9 1313(d); *Pronsolino v. Nastri*, 291 F.3d 1123 (9th Cir. 2002). States are required to allocate
10 responsibility for the overall daily load of pollutants to a waterbody amongst all sources of a
11 pollutant, whether those sources are point or nonpoint in nature. States also are required to
12 develop implementation plans as part of their continuing water quality planning processes, which
13 processes must be reviewed by EPA “from time to time . . . for the purpose of insuring that such
14 planning process is at all times consistent with this chapter [FWPCA].” 33 U.S.C. § 1313(e)(2).
15 For these Congressional goals and requirements to be met, Congress could not have intended to
16 prevent the states from addressing one of the most conspicuous water quality problems
17 confronting rivers throughout the country – hydropower dams.

18 In short, Congress did not occupy the field of water quality regulation in the FPA because
19 Congress occupied that field of regulation via the FWPCA and did so in a manner that preserved
20 the state’s ability to regulate water quality, especially where they were regulating more
21 stringently than the federal government. Although not directly addressing preemption in *PUD*
22 *No.1*, the Supreme Court’s ruling regarding the scope of the Section 401 certification process
23 makes it clear that Congress did not occupy the water quality field via the FPA. Most recently,
24 the Supreme Court in its *S.D. Warren* ruling, reinforces the paramount role the CWA plays in
25 specifying the federal government’s and state’s roles in regulating water quality, even when the
26 FPA is being implemented. *S.D. Warren*, 126 S.Ct. at 1853 (describing the S.D. Warren’s
27 impacts on fish habitat, recreational access and pollution levels, the Court states that “[c]hanges
28

1 in the river like these fall within a State's legitimate legislative business, and the Clean Water
2 Act provides for a system that respects the States' concerns").

3 Because both *California v. FERC* and *Sayles* only addressed actions by the State Board
4 outside of its water quality authority either created or preserved pursuant to the FWPCA, their
5 analyses do not address whether the scope of the FPA's preemption extends to state water quality
6 law. Given the more recent Supreme Court decisions and Congress directly addressing the
7 States' roles in regulating water quality in navigable waters, it is clear that Congress did not
8 intend for the FPA to preempt State water quality laws, at least those state laws either
9 implementing federal requirements under the FWPCA or state water quality requirements
10 specifically preserved by that comprehensive water quality law.

11 **VIII. STATEMENT OF COPIES SENT TO THE REGIONAL BOARD AND**
12 **DISCHARGER.**

13 Copies of this petition are being sent to the Regional Board and the discharger at the
14 following addresses and, where known, e-mail addresses:

15 Catherine Kuhlman, Executive Officer
16 Regional Water Quality Control Board
17 North Coast Region
18 5550 Skylane Boulevard, Ste. A
19 Santa Rosa, CA 95403
20 ckuhlman@waterboards.ca.gov

John P. Sample, Senior Counsel
Cory Scott
PacifiCorp
825 NE Multnomah, Suite 2000
Portland, OR 97232

21 Robert E. Donlan
22 Ellison, Schneider & Harris, LLP
23 2105 H Street
24 Sacramento, CA 95814-3109

Rob Lasich, Vice President & Genl Counsel
Bill Fehrman
PacifiCorp Energy
1407 W. North Temple Street, Suite 320
Salt Lake City, UT 84116

25 **IX. ISSUES RAISED BEFORE REGIONAL BOARD.**

26 Petitioners certify that each of the issues set forth above were presented either in writing
27 or orally to the Regional Board prior to its adoption of Resolution No. R1-2007-0028 on April
28 26, 2007.

Dated: May 9, 2007

Respectfully submitted,

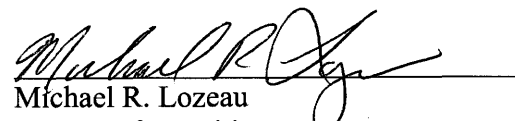

Michael R. Lozeau
Attorney for Petitioners

EXHIBIT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

RESOLUTION NO. R1-2007-0028

Policy Statement in the Matter of Petition to the California Regional Water Quality Control Board, North Coast Region 1) To Order PacifiCorp to Submit a Report of Waste Discharge and/or 2) To Issue Waste Discharge Requirements, Including Prohibitions

WHEREAS, the California Water Quality Control Board, North Coast Region, (Regional Water Board) finds that:

1. The Karuk Tribe of California, Klamath Riverkeeper, Pacific Coast Federation of Fishermen's Associations and the Institute for Fisheries Resources (Petitioners) filed a petition dated February 20, 2007, requesting that the Regional Water Quality Control Board (Regional Water Board) order PacifiCorp to submit a Report of Waste Discharge (ROWD) for its discharges of Microcystis aeruginosa, microcystin toxin, and other pollutants from the Copco and Iron Gate Reservoirs, and issue waste discharge requirements (WDR) establishing appropriate restrictions and prohibitions safeguarding the beneficial uses of the waters of the Klamath River.
2. The Regional Water Board heard arguments and comments from Petitioners, PacifiCorp staff and the public on this matter during its regularly scheduled Board meeting on March 15, 2007, in Eureka, California. This item does not constitute an adjudicatory hearing and does not result in any action taken toward any party. This Resolution is informational only, and is not intended to bind PacifiCorp or any public agency with jurisdiction over PacifiCorp.
3. The Klamath River basin is a 12,680 square mile watershed originating in southern Oregon and flowing through northern California to the Pacific Ocean at Requa in Del Norte County, California. PacifiCorp owns and operates the 161-megawatt Klamath Hydroelectric Project, that includes a system of five dams located in Oregon and California. Copco and Iron Gate Reservoirs in California are located on the main stem Klamath River. Iron Gate Reservoir is located at river mile 190 with Copco Reservoir located at approximately river mile 198.
4. Blue-green algae are commonly found in many freshwater systems. Portions of the Klamath River system experience blooms of blue-green algae. Data show the presence of Microcystis aeruginosa and its toxin microcystin prompting health alerts by the US Environmental Protection Agency (US EPA), the State Water Resources Control Board (State Water Board), the Regional Water Board and the Karuk and Yurok Indian tribes for portions of the Klamath River. Blue-green algae thrive in warm, nutrient rich, slow moving to stagnant water bodies such as lakes, ponds, reservoirs and sluggish stream reaches having adequate sunlight for growth and reproduction; conditions present during the low-flow summer and fall seasons in Copco and Iron Gate reservoirs. By providing slow to stagnant pools of water, Copco and Iron Gate Reservoirs accumulate nutrients from upslope-upriver during summer and early fall seasons and cause increased temperatures near the surface of the reservoirs, thereby promoting blooms of Microcystis aeruginosa and its associated toxin.

5. *The Water Quality Control Plan for the North Coast Region* (Basin Plan) designates the beneficial uses of water bodies within the North Coast Region, prescribes both narrative and/or numeric objectives determined by the Regional Water Board necessary to protect those beneficial uses, and includes implementation programs or actions designed to meet objectives and protect beneficial uses of water. The beneficial uses of water bodies, water quality objectives, and the state and federal antidegradation policies, together, constitute water quality standards.
6. The Klamath River and its tributaries support a number of existing and potential beneficial uses of water including:
 - municipal and domestic drinking supplies,
 - agricultural water supply,
 - industrial service water,
 - industrial processing water,
 - groundwater recharge,
 - navigation,
 - hydropower generation,
 - water contact recreation,
 - non-contact recreation,
 - commercial and sport fishing,
 - warm freshwater habitat,
 - cold freshwater habitat,
 - wildlife habitat,
 - rare, threatened or endangered species habitat,
 - marine habitat,
 - spawning, reproduction and/or early development,
 - shellfish harvesting,
 - estuarine habitat,
 - aquaculture,
 - subsistence fishing
 - Native American culture.

A beneficial use is to be protected in any location that it is found, regardless of whether it is designated for a specific hydrologic unit in the Basin Plan. For example, subsistence fishing by Native Americans is not designated in Table 2-1 for the Klamath River hydrologic unit, yet this use is known to occur and must be protected.

7. The Basin Plan contains a narrative water quality objective that prohibits toxicity in concentrations that are toxic to human, plant, animal, or aquatic life. Compliance with this objective can be determined by a number of factors including growth anomalies. Growth anomalies leading to violations of the toxicity objective would include blooms of Microcystis aeruginosa and its toxin microcystin in amounts deleterious to the health of individuals.
8. Many species of blue-green algae produce toxic compounds known as cyanotoxins. Microcystin and anatoxin toxins are the two most common cyanotoxins encountered in California. Health risks from exposure to moderate concentrations of cyanotoxins during recreational activities can cause skin rashes, eye irritations, allergic reactions, gastrointestinal upsets and other illnesses. Exposure to high levels of microcystin in recreational

and drinking water supplies is known to promote tumor growth and progressive chronic liver damage, and death in vertebrates.

9. The California Department of Health Services (DHS) has developed draft guidance recognizing the World Health Organization's (WHO) Tolerable Daily Intake and Guideline Values for microcystin toxin in water. The Tolerable Daily Intake is applicable to drinking water and Guideline Values relate to exposure during recreational water use. Risk levels and guidelines for blue-green algal cells and microcystin toxin include:
 - Drinking Water: 1 part per billion microcystin
 - Bathing and recreational waters:
 - i. Low Probability of Adverse Health effects: 4 ppb microcystin or 20,000 cells/ml
 - ii. Moderate Probability of Adverse Health Effects: 20 ppb microcystin or 100,000 cells/ml
 - iii. High Probability of Adverse Health Effects: "Scum" on surface water.
10. The WHO and DHS Guidelines for a Moderate Probability of Adverse Health Effects of 20 ppb for microcystin toxin were exceeded in Copco and Iron Gate reservoirs. In the absence of promulgated, numeric water quality standards for this toxin, it is appropriate to consider exceedance of the WHO and DHS Guidelines for determining compliance with the narrative objective for toxicity. The Statewide Blue-Green Algae Group is working to standardize the methodologies for differentiating microcystin variants. More sampling and analyses will be conducted this summer.
11. The Basin Plan contains a narrative water quality objective that prohibits biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Nutrient concentrations immediately upstream of Copco Reservoir and within Copco and Iron Gate Reservoirs are at levels that are biostimulatory and result in seasonal blooms of blue-green algae that cause nuisances and adversely affect beneficial uses. Some of the blue-green algae species, excluding Microcystis aeruginosa, identified in Copco and Iron Gate Reservoirs fix atmospheric nitrogen, thereby increasing nitrogen loads to the reservoirs. When the algae die, the nutrients within the algal cells are either stored in the bottom sediments within the reservoir or are released into the water column. These stored and/or released nutrients, especially phosphorus, often enhance nutrient enrichment in affected reservoirs, thus propagating additional blooms of blue-green algae in what the WHO calls a self-sustaining "feedback loop".
12. The Basin Plan contains a narrative water quality objective that prohibits tastes and odors in concentrations that impart undesirable tastes and odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses. Recreational surveys by PacifiCorp showed that numerous recreational users of the two reservoirs objected to the odors caused by decaying blue-green algae.
13. The Basin Plan contains a narrative water quality objective that prohibits floating material in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses. Blue-green algae blooms were documented and photo evidence shows accumulations of blue-green algae, almost exclusively Microcystis aeruginosa, in algal mats or scum

on the waters surface and shorelines of the reservoirs which created nuisance conditions and adversely affected beneficial uses of water.

14. Evidence that beneficial uses of water in and downstream of Copco and Iron Gate Reservoirs are being adversely affected by blue-green algae include:
 - The exceedance of the DHS and WHO guidelines.
 - Visible and extensive algal mats.
 - Recreational water users' avoidance of swimming, wading, water-skiing, and fishing in areas of the reservoirs with excess blue-green algae blooms.
 - The Karuk tribe has offered anecdotal evidence that during traditional "whole body water immersion" ceremonies in "traditional locations and at traditional time frames," participants experienced skin rashes and gastrointestinal upsets. They believe it is from exposure to blue-green algal toxins.
15. Water quality data indicates that controllable water quality factors associated with Copco and Iron Gate Reservoirs are currently out of conformance with a number of Basin Plan water quality objectives. Water within and discharged from the reservoirs routinely exceed the following water quality objectives during the summer months:
 - Taste and Odor
 - Floating Materials
 - Biostimulatory substances
 - pH
 - Dissolved Oxygen
 - Toxicity
16. California Water Code section 13260(a) requires that any person discharging waste or proposing to discharge waste within any region that could affect the quality of the waters of the state, other than into a community sewer system, shall file with the Regional Water Board a ROWD containing such information and data as may be required by the Regional Water Board, unless the Regional Water Board waives such requirement. Discharges from the tailrace of a dam are considered a "discharge of waste" under the Porter-Cologne Water Quality Control Act. (*Lake Madrone Water District v. SWRCB*, 209 Cal.App.3d 163(1989).)
17. The Petitioners request that the Regional Water Board order PacifiCorp to file a ROWD and/or issue WDRs for Copco and Iron Gate Reservoirs, pursuant to the California Water Code. These hydroelectric facilities are regulated under the Federal Power Act through a federal license issued by the Federal Energy Regulatory Commission (FERC). The federal license may contain certain conditions to adequately protect, mitigate and enhance beneficial public uses. In issuing the federal license, FERC has a duty to ensure that the project is best adapted to the Basin Plan. (16 U.S.C.A. § 803(a); see also 40 C.F.R. § 2.19 [the Basin Plan is part of California's comprehensive plan for the orderly and coordinated control, protection, conservation, development and utilization of the water resources of the state, and has been submitted for filing pursuant to Federal Energy Regulatory Commission (FERC) regulations].)
18. The United States Supreme Court has ruled that the Federal Power Act preempts state law. The state may not require a permit for a project already

licensed by FERC except for proprietary rights to water. (See *First Iowa Hydro-Electric Cooperative v. FPC*, 328 U.S. 152 (1946); *California v. FERC*, 495 U.S. 490 (1990); *Sayles Hydro Associates v. Maughan*, 985 F.2d 451 (9th Cir. 1993).) Accordingly, the Regional Water Board cannot effectively require PacifiCorp to submit a ROWD and/or issue WDRs for the Copco and Iron Gate facilities, as requested by Petitioners.

19. States must ensure compliance with water quality standards and other appropriate requirements of state law through the statutory provisions of the federal Clean Water Act. (*PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700 (1994).) Water quality certification by the state is required for any activity requiring a federal license or permit, which may result in any discharge to waters of the United States. (33 U.S.C. §1341.) Under section 401 of the Clean Water Act, a state may impose conditions on a federal project or a project required to obtain a federal permit, in order to certify that the project protects beneficial uses and meets water quality objectives as specified in the Basin Plan. (*S.D. Warren Co. v. Maine Board of Env'l. Protection*, 126 S.Ct. 1843 (2006) [unanimously upholding state's jurisdiction to regulate FERC hydroelectric facilities under section 401 of the Clean Water Act].)
20. In California, an application for water quality certification shall be filed with the Executive Director of the State Water Board, and notice provided to the Executive Officer of the Regional Water Board, when the proposed activity is associated with a FERC-licensed hydroelectric facility. (Cal. Code Regs., tit. 23, §3855.) The State Water Board is actively reviewing PacifiCorp's application for water quality certification, and both State and Regional Water Board staff have commented on the federal environmental document issued by FERC for the project. To date, PacifiCorp has not provided adequate information to provide sufficient information to certify that the project will comply with the Basin Plan. PacifiCorp has proposed to develop a reservoir management plan to address water quality impairment within the project area. The Regional Water Board will continue to participate in the relicensing process to ensure that the water quality certification conditions the project to meet Basin Plan requirements. Water quality plans, including PacifiCorp's reservoir management plan, should be developed in advance of license issuance so that implementation begins at the time the certification and license is issued.
21. Section 303(d) of the Clean Water Act requires states to identify waters that do not meet applicable water quality standards and further requires the US EPA to list such waters on the 303(d) impaired waters list. The Clean Water Act also requires that states or the US EPA establish Total Maximum Daily Loads (TMDLs) for waters on the impaired water list. Such TMDLs shall be established at levels necessary to implement applicable water quality standards with seasonal variations and a margin of safety.
22. The Klamath River in California is on the federal Clean Water Act section 303(d) list for elevated nutrients, elevated temperature, organic enrichment/low dissolved oxygen, and in the Klamath Glen hydrologic subarea (Klamath River below the community of Weichpec) for sedimentation/siltation. Reaches of the Klamath River in Oregon are on the 303(d) list for low dissolved oxygen, elevated temperature, chlorophyll a and pH. The Regional Water Board is in the process of developing TMDLs for

these impairments, in cooperation with Oregon Department of Environmental Quality and with support from US EPA Regions 9 and 10.

23. Development of the Klamath River TMDLs is based largely on application of numerical water quality models, but also incorporates semi-quantitative and qualitative information linking pollutant source contributions to violation of water quality standards. Though these TMDLs are still in development, once the TMDL is implemented, it is expected that pollutant load and waste load allocations will result in reduced nutrient and organic enrichment of the Klamath River in California, as well as reduced stream temperatures. These improvements in water quality are expected to reduce the occurrence and frequency of blue-green algae blooms. It is anticipated that the TMDL will include water quality targets for chlorophyll a, blue-green algae cell density, and toxin concentrations that are protective of water quality standards.
24. Regional Water Board staff has begun the process of updating the 303(d) list. Data and information on the blue-green algae blooms and associated toxin concentrations in the Klamath River have been submitted to Regional Water Board staff for consideration in the listing process. Regional Water Board staff will consider recommending that the Regional Water Board list Copco and Iron Gate Reservoirs for blue-green algae and the microcystin toxin.
25. The Action Plan, which will implement the Klamath River TMDLs, will require that the water quality certification issued by the State Water Board ensures compliance with the Basin Plan. In addition, it may address any discharges upstream found to contribute to the blue-green algae problem in the reservoirs. Development of the TMDL is not intended to delay any action to improve water quality conditions on the Klamath River in the interim.
26. As explained above, the State Water Board and FERC are required to condition the relicensing of the Klamath Hydroelectric Project to meet water quality objectives and protect beneficial uses. In the interim, Regional Water Board staff is participating in efforts by the Statewide Blue-Green Algae (BGA) Work Group, the Klamath BGA Work Group, and the Drinking Water Program of the DHS to finalize blue-green algae guidance. The Klamath BGA Group is finalizing sample points for a two year contract awarded to UC Santa Cruz.
27. Regional Water Board staff will continue to work with the counties and Tribes to assure that all efforts are made to effectively inform the public of health concerns as they occur, including:
 - Posting of health alerts by the Regional Water Board if necessary.
 - Continued involvement with the Klamath BGA and the Statewide BGA Work Groups.
 - Work with Drinking Water Program of DHS to finalize statewide blue-green algae guidelines as a voluntary response to BGA blooms.

NOW, THEREFORE, BE IT RESOLVED THAT,

1. Petitioners' request to require PacifiCorp to submit a ROWD for Copco and Iron Gate Dams is DECLINED;

2. Staff shall continue to diligently develop and complete the Klamath TMDLs that will result in compliance with the listed water quality standards;
3. Staff shall work with the PacifiCorp, Tribes, counties, and other interested parties to ensure that all efforts are made to effectively inform the public of health concerns as they emerge this summer, including posting by the Regional Water Board if necessary.

CERTIFICATION

I, Catherine E. Kuhlman, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, North Coast Region, on April 26, 2007.

Catherine E. Kuhlman